



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/363,121    07/28/99    LEE

B    35399/DBP/Y3

| EXAMINER |
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MMC2/0706

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| HAYNES, M |              |
|-----------|--------------|
| ART UNIT  | PAPER NUMBER |

2879  
**DATE MAILED:**

07/06/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/363,121

Applicant(s)

LEE, BONG-WOO

Examiner

Mack N. Haynes

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuneta et al. in view of Kim (5,998,920).

With regards to claims 1-2, Figs. 1 and 3 as well as col. 2, line 23-col. 4, line 10 of Tsuneta et al. disclose a CRT that comprises the following: a panel having a phosphor screen; a cylindrical neck having an electron gun assembly disposed therein; a funnel that is formed between the panel and neck, and having a rectangular cone portion contiguous to the neck; and an inherent anode button.

Yet, Tsuneta et al. does not specifically discuss the concept of having an inner graphite layer that is disposed on an inner surface of the funnel to form a path for transmission of the voltage, wherein the inner graphite layer satisfies the following condition:  $0.9 < T_d / T_h < 1.36$  (for claim 1) or  $0.9 < T_d / T_v < 1.36$  (for claim 2), where  $T_d$  is an approximate thickness of the inner graphite layer on each inside corner of the

cone portion,  $T_h$  is an approximate thickness of the inner graphite layer disposed on inside horizontal walls of the cone portion, and  $T_v$  is an approximate thickness of the inner graphite layer disposed on inside vertical walls of the cone portion.

However, Kim discloses a CRT having a funnel with a graphite coating that is covered uniformly over the inner surface of the funnel for the purpose of being a condenser. More over, col. 1, line 50-col. 2, line 52 of Kim teaches that it would be desirable to have the graphite coating uniform coated over the inner surface of the funnel in order to prevent unwanted internal discharging when the CRT is turned on or off (due to non-uniform coating of the graphite conductive layer).

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to uniformly (wherein, the thickness of the coating at the corners is equal to the thickness of the coating on the vertical and horizontal walls) coat the inner surface of the funnel of Tsuneta et al., which includes the corners as well as vertical and horizontal walls for the purpose having the coating function as a condenser and properly preventing unwanted internal discharging when the CRT is turned on or off (due to non-uniform coating of the graphite conductive layer) as taught by Kim.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jang, Tanaka et al., and Kim et al. disclose CRTs having funnels that are coated internally with graphite coatings. Sano et al. ('964 and '767) discloses non-circular funnel cones.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mack N. Haynes whose telephone number is (703) 308-5460. The examiner can normally be reached on Mon-Fri., 9:00a.m.-5:00p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MNH  
June 30, 2001



**NIMESHKUMAR D. PATEL**  
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